Linux Which Command, Whatis Command, Whereis Command Examples

I. Linux whatis Command

Whatis command is helpful to get brief information about Linux commands or functions. Whatis command displays man page single line description for command that matches string passed as a command line argument to whatis command. Whatis command searches for string in its index databases which is maintained by mandb program. Whatis command picks short description of NAME section of man page of command that matches to input given to the whatis command.

Whatis provides several command line options to help user in getting brief information of specific Linux commands as per their need or interest.

Syntax:

$ whatis [-options]

For example, here is the output of whatis command, when it is run without any option.

$ whatis write

write (1) - send a message to another user

write (2) - write to a file descriptor

It displays brief information about “write” from man pages.

1. Get information from specific sections of man pages using -s option

If we want to get Linux command information from specific section of man pages, then we can provide sections list using “-s or —sections or –section” option. It will restrict whatis command to display brief information from specified man page section only.

$ whatis -s "1","2" open

open (1) - start a program on a new virtual terminal (VT).

open (2) - open and possibly create a file or device

It displays open command and function brief information from man page sections 1 and 2.

$ whatis -s "2" open

open (2) - open and possibly create a file or device

It displays open function brief information from man page section 2.

2. Search information through wild-cards using -w option

If we want to search Linux commands or functions information using wild card, then whatis command gives “-w or –wildcard” option. It will make your search specific as per user’s need.

$ whatis -w 'ab\*'

abort (3) - cause abnormal process termination

abs (3) - compute the absolute value of an integer

It displays brief information of Linux commands or functions which start from “ab”.

$ whatis -w 'ab?'

abs (3) - compute the absolute value of an integer

It displays brief information of Linux commands or functions which start from “ab” and followed by any single character.

3. Search information through regular expressions using -r option

If we want to search Linux commands or functions information using regular expressions, then whatis command gives “-r or –regex” option. It will give flexibility to customize your search for Linux commands or functions throughout the Linux system.

$ whatis -r '^ab'

abort (3) - cause abnormal process termination

abs (3) - compute the absolute value of an integer

It displays brief information of Linux commands or functions which start from “ab”.

$ whatis -r 'ab$'

anacrontab (5) - configuration file for anacron

baobab (1) - A graphical tool to analyse disk usage

crontab (1) - maintain crontab files for individual users (Vixie Cron)

crontab (5) - tables for driving cron

fstab (5) - static information about the filesystems

inittab (5) - init daemon configuration

swab (3) - swap adjacent bytes

tc-stab (8) - Generic size table manipulations

It displays brief information of Linux commands or functions which ends with “ab”.

4. Disable trimmed output using -l option

Generally whatis command trims long output of Linux commands or functions information to avoid “Not good” output display on terminal that is going beyond screen. To allow whatis command to show complete output on screen, “-l or –long” option can be used.

$ whatis ssh-import-id

ssh-import-id (1) - retrieve one or more public keys from a public keyserver (Launchpad.net by default) and append them to the current user's authorized\_keys file (or some other specifie...

It displays trimmed output of brief information of Linux command.

$ whatis -l ssh-import-id

ssh-import-id (1) - retrieve one or more public keys from a public keyserver (Launchpad.net by default) and append them to the current user's authorized\_keys file (or some other specified file)

It displays complete output of brief information of Linux command.

5. Restrict search up to specified path using -M option

By default, whatis command uses $MANPATH environment variable. But whatis provides “-M or –manpath” option to restrict search up to specified path of man pages.

$ whatis -M /usr/share/man hexdump

hexdump (1) - ASCII, decimal, hexadecimal, octal dump

It displays brief information of Linux hexdump command from man pages available at path /usr/share/man.

$ whatis -M /usr/man hexdump

hexdump: nothing appropriate.

It could not find brief information of Linux hexdump command from specified path /usr/man.

II. Linux whereis Command

Whereis command is helpful to locate binary, source and manual pages of commands in the Linux system. It is very simple utility and provides several options which are given below with examples.

Syntax:

$ whereis [-options]

For example, whereis command is run without any option.

$ whereis open

open: /bin/open /usr/share/man/man1/open.1.gz /usr/share/man/man2/open.2.gz

It locates binary, source and man pages of “open” command and here it displayed paths where binary, man pages of open command is available in the system.

6. Locate binaries using -b option

If we want to locate binary of Linux command, use “-b” option.

$ whereis -b whereis

whereis: /usr/bin/whereis /usr/bin/X11/whereis

It locates binary of “whereis” command and displays paths where binary of command is available in the system.

7. Locate man pages for a command using -m option

If we want to locate man page of Linux command, use “-m” option.

$ whereis -m whereis

whereis: /usr/share/man/man1/whereis.1.gz

It locates man page of “whereis” command and displays path where man page of command is available in the system.

8. Locate source of a command using -s option

If we want to locate source of Linux command, use “-s” option.

$ whereis -s whereis

whereis:

It locates source of “whereis” command, but source of “whereis” command does not exist in the system, so it did not display path for source of command in the system.

9. Locate unusual entries using -u option

This option is something different that searches for unusual entries. These entries are those command whose source, binary or man page does not exist in the system as per options “[-bms]” specified along with “–u”.

$ whereis -m -u wcgrep

wcgrep:

It checks if specified command (i.e. wcgrep) man page does not exist in the system. Whereis command with options “-m and -u” locates for the commands in the system whose man page does not exist.

$ whereis -m -u grep

$

Here, whereis command with same options is applied on “grep” command whose man page exists in the system, so whereis returned nothing and exits normally.

10. Locate binaries in a specified path using -B option

If user wants to search for binary and wants to limit the scope of search for whereis command up to specified path, then use “-B” option.

$ whereis -B /bin -f for\_loop

for\_loop: /bin/for\_loop

It locates binary of “for\_loop” user program from path “/bin”.

$ whereis -B /usr -f open

open: /usr/share/man/man1/open.1.gz /usr/share/man/man2/open.2.gz

If open command’s binary is not found at specified path, then it is not shown but whereis command by default searches for other types (i.e. man page and source) of specified command (i.e. open) and displays them if found.

11. Locate man pages with limited scope using -M option

If user wants to search for man pages and wants to limit the scope of search for whereis command up to specified path, then use “-M” option.

$ whereis -M /usr/share/man/man1 -f open

open: /bin/open /usr/share/man/man1/open.1.gz

$ whereis -M /usr/share/man/man2 -f open

open: /bin/open /usr/share/man/man2/open.2.gz

$ whereis -M /usr/share/man/man3 -f open

open: /bin/open

Here, it is observed that whereis command is displaying man page of “open” command which is available in specified path only. But, whereis command by default searches for other types (i.e. binary and source) of specified command (i.e. open) and displays them if found.

III. Linux which Command

Which command is very small and simple command to locate executables in the system. It allows user to pass several command names as arguments to get their paths in the system. “which” commands searches the path of executable in system paths set in $PATH environment variable.

Syntax:

$ which [-option]

For example,

$ which ls gdb open grep

/bin/ls

/usr/bin/gdb

/bin/open

/bin/grep

It locates command names – “ls”, “gdb”, “open” and “grep” specified as arguments to “which” command and displays paths of each executable where it exists in the system.

12. Display all the paths using -a option

“which” command gives option “-a” that displays all paths of executable matching to argument.

$ which echo

/usr/sbin/echo

Above will search display the executable “echo” from all paths set in $PATH environment variable and displays the first path where echo executable is found. It may be case that executable is placed at other paths of $PATH environment variable as well. To get all paths where executable is present in the system, “-a” option can be used.

$ which -a echo

/usr/sbin/echo

/bin/echo

**Linux and Unix tac command**

About tac

Concatenate and print files in reverse.

Description

tac (which is "cat" backwards) concatenates each FILE to standard output just like the cat command, but in reverse: line-by-line, printing the last line first. This is useful (for instance) for examining a chronological log file in which the last line of the file contains the most recent information.

If no FILE is specified, or if the FILE is specified as "-", tac reverses the contents of standard input.

Syntax

tac [OPTION] ... [FILE] ...

Options-b, --before attach the line separator before each line of output instead of after.

-r, --regex interpret the line separator as a regular expression (useful with the -s option, see below).

-s, --seperator=STRING use STRING as the line separator instead of a newline.

--help display command help and exit.

--version output version information and exit.

Examples

tac file1.txt

Prints the lines of file1.txt in reverse, from last line to first.

**WC Command Examples to Count Number of Lines, Words, Characters in Linux**

The wc (word count) command in Unix/Linux operating systems is used to find out number of newline count, word count, byte and characters count in a files specified by the file arguments. The syntax of wc command as shown below.

# wc [options] filenames

The following are the options and usage provided by the command.

wc -l : Prints the number of lines in a file.

wc -w : prints the number of words in a file.

wc -c : Displays the count of bytes in a file.

wc -m : prints the count of characters from a file.

wc -L : prints only the length of the longest line in a file.

So, let’s see how we can use the ‘wc‘ command with their few available arguments and examples in this article. We have used the ‘tecmint.txt‘ file for testing the commands. Let’s find out the output of the file using cat command as shown below.

[root@tecmint ~]# cat tecmint.txt

Red Hat

CentOS

Fedora

Debian

Scientific Linux

OpenSuse

Ubuntu

Xubuntu

Linux Mint

Pearl Linux

Slackware

Mandriva

1. A Basic Example of WC Command

The ‘wc‘ command without passing any parameter will display a basic result of ”tecmint.txt‘ file. The three numbers shown below are 12 (number of lines), 16 (number of words) and 112 (number of bytes) of the file.

[root@tecmint ~]# wc tecmint.txt

12 16 112 tecmint.txt

2. Count Number of Lines

To count number of newlines in a file use the option ‘-l‘, which prints the number of lines from a given file. Say, the following command will display the count of newlines in a file. In the output the first filed assigned as count and second field is the name of file.

[root@tecmint ~]# wc -l tecmint.txt

12 tecmint.txt

3. Display Number of Words

Using ‘-w‘ argument with ‘wc‘ command prints the number of words in a file. Type the following command to count the words in a file.

[root@tecmint ~]# wc -w tecmint.txt

16 tecmint.txt

4. Count Number of Bytes and Characters

When using options ‘-c‘ and ‘-m‘ with ‘wc‘ command will print the total number of bytes and characters respectively in a file.

[root@tecmint ~]# wc -c tecmint.txt

112 tecmint.txt

[root@tecmint ~]# wc -m tecmint.txt

112 tecmint.txt

5. Display Length of Longest Line

The ‘wc‘ command allow an argument ‘-L‘, it can be used to print out the length of longest (number of characters) line in a file. So, we have the longest character line (‘Scientific Linux‘) in a file.

[root@tecmint ~]# wc -L tecmint.txt

16 tecmint.txt

6. Check More WC Options

For more information and help on the wc command, simple run the ‘wc –help‘ or ‘man wc‘ from the command line.

[root@tecmint ~]# wc --help

Usage: wc [OPTION]... [FILE]...

or: wc [OPTION]... --files0-from=F

Print newline, word, and byte counts for each FILE, and a total line if

more than one FILE is specified. With no FILE, or when FILE is -,

read standard input.

-c, --bytes print the byte counts

-m, --chars print the character counts

-l, --lines print the newline counts

-L, --max-line-length print the length of the longest line

-w, --words print the word counts

--help display this help and exit

--version output version information and exit

Report wc bugs to bug-coreutils@gnu.org

GNU coreutils home page: <http://www.gnu.org/software/coreutils/>

General help using GNU software: <http://www.gnu.org/gethelp/>

For complete documentation, run: info coreutils 'wc invocation'